

ABSTRACT OF THE DISCLOSURE

In a high-stability low-noise voltage-controlled oscillator, a current mirror circuit is connected with a power supply line, and a current controller for controlling a current flowing through the current mirror circuit is disposed between the current mirror circuit and a ground line. In parallel with the current controller, a first negative resistor, an LC circuit, and a second negative resistor are disposed in this order between the current mirror circuit and the ground line. The LC circuit includes an inductor, two variable capacitance elements, and three capacitor pairs. Three control signals are applied such that each control signal is applied to one of N-channel transistors in the current controller and also to one of switch pairs corresponding to one of capacitor pairs in a resonator.